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"Salvation of India lies in Cottages."

—*MAHATMA GANDHI*

CLIMATE OF CORRUPTION

CORRUPTION, Demoralisation, Frustration and Inaction are by common consent the four-fold chronic maladies from which post-independent India suffers. The germs of these maladies could be traced to the all-pervading and over-riding political atmosphere of *power* and *profit* engendered by the Congress rule. The experience of the last 13 years of Congress rule hardly provides any hopeful symptom of their cure. They seem to have now grown to enormous proportions affecting every aspect of people's life.

Of late, corruption in high places and measures to eradicate it has been an absorbing topic of public discussion both in the Lok Sabha and outside. The demand for Anti-Corruption Tribunal to probe into the cases of Ministerial and high-level corruption seems to have become irrestible and has created quite a stir in the country. The Congress leaders in administration headed by the Prime Minister, Shri Nehru, being aware of large-scale exposure and consequent demoralisation of the Congress rule are vainly trying to resist the demand of appointing the Tribunal.

They seem to be satisfied with the appointment of a Committee of Congressmen to look into such cases but the bonafides of such a committee are questioned on the valid grounds of corruption being a national concern and not that of a party. People seem to have no faith in the subterfuge of a Committee composed of Congressmen to eradicate corruption in which many of them, or their friends may be involved. They could not be depended upon to be just and impartial in the face of party pressure.

Obviously, the unwillingness of the Congress leaders and particularly of our Prime Minister to appoint a Tribunal to investigate cases of Corruption in high places only confirms public suspicion of conniving at the evil and allowing it to grow under their patronage. This attitude of the Prime Minister to defend the indefensible clearly betrays want of high sense of public morality and partiality to the party-men even when they are involved in the grave charges of corruption. It is a natural corollary of such an attitude that a person of stainless character and of the eminence of Shri C. D. Deshmukh does not see his way to place documentary evidence in his possession before the Prime Minister. And, if the impartiality of the Prime Minister in dealing with cases of corruption is questioned, as this instance bears out, the days of Congress rule in this country are only numbered.

Such a state of affairs provides an opportunity to some other party, which

prizes moral values to party considerations, to expose and eradicate the evil in an organised way and save the nation from moral bankruptcy. It is reported, that the Swatantra Party has already set up a Public Aid Committee to receive and examine complaints of corruption and favouritism against Ministers and officials and compel the Congress administration to eradicate it wherever it exists. Other parties and public bodies too are likewise expected to follow the lead of the Swatantra Party to root out the evil and re-establish moral order in the society which has been greatly undermined during the last 13 years of Congress rule.

Thorough clean-up of the administration is a fundamental pre-requisite to build up moral order of the society. People seem to have lost faith in Congress leadership to discharge this moral responsibility. The initiative now lies with the people to do something about it without waiting for the Congress Government to do it for them.

ALL INDIA AGRICULTURAL ECONOMICS CONFERENCE

By: MAHESH CHAND

WHEN administrators get the chance of speaking before students of agricultural economics, it is expected that they shall not take the airs of political ministers: that they shall not talk in general terms: that they shall not try to get lost in technical jargons like infra-structure, balanced growth, unbalanced growth, sustained growth, abortive take-off, hauled take-off, assisted take-off, self-propelled take-off, bargain sector, big push and pull: that they shall not merely preach, "History tells us that no nation has made a real progress unless it has decided to take up a big enough challenge and respond to it manfully".

If the administrator happens to have had, till recently, the experience of being the head of an important directorate of economic analysis and advice, there will be all the more reason to expect that we shall get conclusions based on solid statistical analysis instead of merely something on (say) the strategy for agricultural development, as fell to the fate of those gathered at Baroda for an All India Agricultural Economics Conference.

Preamble About Principles

One third of the address was just a "preamble about principles", half of it introduction and history. The President maintained that "in an economy like ours a large part of the surplus required for economic development *will* have to come from agriculture until the stage is reached when industry is able to contribute a major portion of the national income". The very backwardness of Indian agriculture seems to have a silver-lining. It implies an advantage in terms of unexploited potential, low investment-output ratio and short gestation period. Even with current production theoretically agriculture could have played a role if it could supply more of the physical goods required by other sectors of the economy in the shape of food and raw materials. With the prevailing conditions of nourishment and employment in the agricultural sector, such a role is less feasible. In the ultimate analysis agricultural productivity must go up and one of the greatest hurdles, according to the speaker, is the existence of "a quasi-equilibrium at a low level of productivity", which not only limits investment, enterprise and techniques but also determines species of crops and animals.

New Techniques

According to Dr. Sen (S. R.), who presided at the Baroda Conference, there is limited value in the advice that we should concentrate on more intensive use of traditional techniques. He laid

great stress on new techniques and on an organisation for researches in regard to the same.

Strategic Stimulus

Classifying the measures to increase the volume of surplus available from agriculture into four categories, viz., compulsion, inducement, collectivist organisation and strategic stimulus, the speaker seemed to be of the view that times are gone when agriculturists could be made to produce more by being made slaves to others (compulsion) or slaves to wants (inducement). After referring to the various shortcomings of the system of laissez faire, he pointed to the existence of a strong element of compulsion in the collectivist organisation, "somewhat reminiscent of that of Iycurgus". He is inclined to favour a system of strategic stimulus: the farmers must be protected against unfair competition and the vicissitudes of the market economy, and the infra-structure essential for agricultural development should be created. To begin with such industries should be developed as are linked with the more vital sectors of the agricultural economy.

Dr. Sen next referred to the specialisation of agriculture introduced during the British rule in Burma, Punjab, Sind, Bengal, and how the War and the partition affected suddenly the geographical division of labour. In order to make up for the loss of rice, wheat, cotton and jute some of the advantages of geographical division of labour have to be sacrificed. Yet he highlighted that the index of agricultural production, which stood at 103 for the qninquennium ending 1938-39 and which had sunk to 97 for that ending 1950-51, rose to 123 for the three years *(not the quinquennium)* ending 1958-59. One wonders why he did not refer to an index number for the quinquennium ending 1958-59. Was there a fear that in that case the index would have to be about 118 instead of 123?

Declining Agricultural Productivity

In this connection Dr. Sen said that a part of this increase in production was no doubt due to the extension of cultivation to new areas and of multiple cropping but it also reflected a *substantial* increase in agricultural productivity. One wishes that our erstwhile Economic Adviser from the Ministry of agriculture had given more details and figures. The following figures of yield in ton per acre in bales per acre for jute and cotton calculated from three yearly moving averages of total production and acreage tell a different story:—

	1953-54	1954-55	1955-56	1956-57
Rice	0.33	0.345	0.344	0.345
Wheat	0.31	0.30	0.29	0.27
Jwar	0.19	0.18	0.18	0.17
Bajra	0.13	0.132	0.118	0.119
Gram	0.23	0.233	0 227	0 226
Pulses	0.18	0.17	0.16	0 154
Jute	0.25	0.24	0 237	0.233
Sugarcane	13	13.4	13.4	13
Cotton	0.221	0.226	0.226	0.225
Oilseeds	0.177	0.195	0.196	0.194

It can only be concluded that rice, cotton and oilseeds seem to show a sudden rise and then a constancy. Sugarcane can also be said to show a constancy, while jute and other food crops are having a declining yield. This is when we have, by taking a three yearly moving average taken account of the good crops of 1958 and 1959.

Increase in Area

The main increase in area has been under food crops. Of about 27 million acres placed more under food crops, only about one-ninth is accounted for by rice. The distribution of area reckoned in million acres is roughly as follows:—

Rice	Wheat	Jwar	Bajra	Gram	Pulses	Total increase
2.9	5.6	2.9	5.2	3.7	3.8	27

In this connection one feels like bringing up a point incidentally. The country has about 811 million acres of land, all told. Leaving out 196 million acres placed under mountains, deserts and inaccessible big forests, the distribution of area under major heads in 1951 was as indicated in the second column of the following table, which also shows the 1957 distribution and the change since 1951:—

	1951	1957	Change
Forest	93	126	+ 33
Net area sown	266	321	+ 55
Current fallow	58	59	+ 1
Cultivable waste	98	97	- 1

Not available for cultivation	96	118	+ 22
Total area	615	720	+105

One would expect that somebody, if not the Directorate of Economics and Statistics in the Ministry of Agriculture, would take steps to explain wherefrom these 105 million acres of land have appeared, as they could not be taken to imply an equal reduction in the figure of 196 million acres under mountains, deserts etc.

As President of the Conference Dr. Sen had his choice of speaking on the strategy for agricultural development, but we expected that he had given us some detailed analysis also.

Regional Approach

We feel that there is a great need for the examination of regional situations. Much should be possible to learn from regional analysis, if the same are done sincerely and impartially. Dr. Sen himself drew the attention of his audience to (a) low agricultural food productivity in the face of intensive cultivation in Assam plantations, (b) low increase (5%) in agricultural food production during the Second Five-Year Plan in Chhota Nagpur inspite of a very substantial development of heavy industries in that area and to (c) flourishing progress maintained in East Punjab as against stagnation in East U. P. Such contrasts must be identified for all parts of the country to focus attention of the planning authorities on important lines of attack.

Push and Pull

Referring to both East Punjab and Kaira district of Gujrat, Dr. Sen emphasized the need for small-scale industries using power driven machines (hence, by implication, the emphasis would be on supply of power), particularly of the ancillary type, and mixed farming. In order that this m y be done in an extensive way, Dr. Sen believes that "our basic approach has necessarily to be a suitable form of strategic stimulation, namely, a big push given by the State supplemented by certain strategic pulls through the deliberate planning for a limited amount of "unbalanced development" of both agriculture and industry". He did say that the push should be of the right magnitude and at the right points and the "pull" should not be such as would make us lose in the rounds what we gain in the swing, but he did not go into the details. Who should make a greater sacrifice in order that surpluses be mobilised for a 14% saving of the national income? Is it to come from small farmers and labourers, from middle class households or others?

Sacrifices by Agriculturists

Dr. Sen did not favour that sacrifices may be made by agriculturists. For he said that "some of the basic recommendations made in the two Plans, e. g., security of tenure, agrarian reorganisation, supply of timely and adequate credit and stabilisation of the price level, have not yet been implemented effectively. He deplored the hesitancy and the laxity shown by—shall we say—executors of the plans, and went on to say, by way of re-emphasis, that "unless our farmers are fully protected against exploitation by landlords, provided with an agrarian structure which is conducive to efficiency, supplied with credit *which is adequate enough for adopting all the new techniques and for making all the investments that are needed for achieving a higher level of production and also assured that if they take the risk of stepping up their investment, prices will not be allowed to unremunerative levels.*" This is a big and strange emphasis--all credit and no unremunerative prices, with the term unremunerative" left undefined by the speaker, and it contradicts in spirit what the learned President said under 'Preamble about planning'.

Let us take a simple example. Suppose 80 men are in agriculture and 20 in non-agriculture. So far as food production is concerned, therefore we may say that 80 men lose 20% of their output to support the remaining 20 men. Suppose in a next plan only 60 men remain in agriculture, and 40 in non-agriculture. Then these 60 shall now be producing the 100% of food production and shall have to lose 40% of their production. Shall they in return be able to get 60% of what the other 40 men produce? If

not, then what they shall have in return may not be sufficient to make them feel that they are getting remunerative prices.

Two Demands

Even if all the emphasis materialises, Dr. Sen has still two more demands. One, increase the staff of extension service and reduce the farmer - VLW ratio to half, if not one-fourth of what it is these days. Any Tom, Dick and Harry should not be enlisted: it must be a fully qualified staff. One is afraid that the type of staff that the Doctor has in mind would itself become a hurdle in increasing agricultural production. However, the other demand is for a "sufficient provision for supplies of fertilisers, pesticides, improved seeds, implements, livestock". This is all right but how are they to be made available. Fertilisers might be imported in some quantity for sometime, but what about improved seeds and livestock and implements? Will greater allocation of iron and steel to private implement-producers secure more agricultural implements produced and *marketed* in the rural areas? Would Dr. Sen advocate subsidised sales of implements, pesticides etc. to induce private enterprise revolutionise agriculture? We do not know, though the idea is worth wider discussion. As to livestock and seeds, as an expert agricultural economic adviser, Dr. Sen is, it is regretful, silent.

Optimum Use

It is heartening to find that an agricultural administrator has emphasized the need for the optimum use of the available supply of water, drought resisting crops, small irrigation works etc. and publicly expressed the view that "we should go slow with major projects for at least the next plan period and reserve these projects only for such areas where there is no alternative way of improving agricultural production".

He has realistically emphasized that in view of the scarcity of our resources we cannot make a uniform progress on all fronts and that for a more rapid progress a few fronts should be carefully selected. According to him, instead of paying any heed to the demand for regional self-sufficiency in food our programme for agricultural development has to be built "around the best crop rotation for each of these regions from the technical as also the economic point of view". One would only ask for an elucidation of the contents of the 'technical' and the 'economic' points of view as also whether there is an all time best crop-rotation for each region in theory. Nay, do the agriculture departments have already found out the best crop-rotations for the different regions? Or, shall we have to take the prevailing rotations of crops as the best?

But no Regional Food-sufficiency

Dr. Sen perhaps feels that in these days of specialisation and scientific progress there should be no choosing of a policy of regional self-sufficiency in food. We would only submit that with the type of progress that we are having in science, decentralisation and regional self-sufficiency is becoming more practicable and desirable. In an era when atomic power could shatter centrally organised national food self-sufficiency, we can say that the use of such power for regional self-sufficiency is the best method to escape possible dangers of such new power.

Commercialise Food

Dr. Sen has put forward another novel idea. He wants that all "crop production should be taken up everywhere on a commercial basis Even where foodgrains are grown, they should be grown as far as practicable as *cash crop* rather than as mere subsistence crop". A brilliant idea to give the people a carrot to work, but there is a flaw.

How can one, who is without alternative sources of living and who can but depend on his labours on his piece of land to get something to fi l the bellies, be inspired to think that he shall be growing food only on a commercial basis? And those, who are able to fulfil this condition, are —we must remind ourselves—already disposing of their surpluses on as commercial a basis as practicable within the present circumstances. Dr. Sen does not need to be reminded that our cultivator is very intelligent: many an urban educated gentleman is apt to dub him "shrewd". So "commercial basis" is not what we need. If we want that the farmer should be able to extract better terms from non-agricultural consumers of his produce, we have but to give him "Waiting power"—necessary credit and storage facilities—and industries. The waiting power shall not, we must warn, enable more resources (or surpluses) to be mobilised for economic development; rather they shall make it more inconvenient to get the surpluses for those engaged in non-agricultural economic activities, presuming that these activities shall be ot the large-scale variety and away from granaries of food.

Dr. Sen having been the head of the directorate of economics and statistics in the departments of agriculture and food for a number of years, one wishes that he had given us some sound factual analysis and detailed indications of roles to be allotted to agriculture in certain selected regions. As it is, we are no wiser even about problems such as those of food zones and increasing unemployed—or underemployed—manpower in the countryside, much less about mobilisations of investible surpluses in agriculture.

INTEREST AND MORALE OF RURAL LEADERS

By: TAKHAT SINGH SOHAL

THERE is a growing recognition of a significant contribution that rural leaders are capable of making in programs of Community Development. As a consequence, there is an increasing need as well as a genuine desire to know more and more about the delicate phenomenon of leadership. New concepts are being added to the previously existing knowledge of leadership and many utilitarian additions are being made to the various aspects of this subject.

Out of the Several areas of rural leadership, hardly any would be found to excel in practical significance to interest and morale of leaders. It is a matter of common experience that in the absence of either of these, proper functioning of village leaders becomes remotely difficult For success in working with local leaders to promote programs of rural development not only an appropriate understanding of the methods of ensuring these is essential but equally important is a knowledge of the factors that impede interest and lower morale. In fact interest and morale have a recriprocal cause and effect relationship, because interest leads to high morale and good morale in turn leads to more interest. A perusal of the forthcoming discussion of these two aspects will be helpful to all those connected with rural development. The factors that circumvent interest and adversely affect morale of rural leaders will be considered first.

It may, however, be pointed here that some of the reasons having relegatory effect on the interest and morale are conspicuously peculiar to the rural leaders and may not be in evidence under other leadership structures.

Factors affecting the interest and morale of the leaders

It is universally admitted that majority of Indian Villages are faction ridden. In these villages, there is always a relent-

less and wanton criticism and opposition of voluntary leaders even if there are no solid grounds. This can easily frustrate even the highly motivated and enthusiastic leader. Uncharitable remarks doubting the honesty and integrity of true and sincere leader make his job both thankless and uncomfortable. It is paradoxical that every leader, despite the best of his intentions to render selfless service, is suspected of a profit motive. A typical remark often heard in the village, is "If there were no personal gain to him (the leader) why would he spend time in performing role of leader?" Such remarks can easily impinge on the sensitivity of a devoted leader.

Leaderships tasks in the villages are made difficult by a mushroom growth of *pseudo*-leaders. There is no gain-saying the fact that there usually arises opposition to even the most influential village leader. Its cause may be faction, personal jealousy or any other. But as a result of such opposition, several of the really sincere individuals who have the capacity and wit to provide leadership are deterred from volunteering their services. They would hate to be involved in malicious party politics and other manoeuvrings.

Sometimes it may not be an active opposition but rather passive resistance or deliberate withdrawl of support of a few villagers that may frustrate a leader. In the event of wilful expressions of non-cooperation by certain individuals, many more may follow suit. Unless the belligerants can be successfully persuaded to adopt a more constructive attitude, the influence and hold of the leader remains at stake. This can lead to an impasse to the functioning of voluntary leaders.

Yet another cause of the downfall of a leader's morale can be a precipitous start of a difficult project. Slow or absence of progress in the initial stages can seriously dishearten voluntary leaders. At other times, the enthusiasm of a village leader may wane owing to the failure of the government or any other sponsoring agency to contribute its promised share at the stipulated time. Instances of this kind when promises remain unmet are not too infrequent and their consequences are well within the knowledge of development personnel.

Morale is also likely to run down if the leader does not find the job sufficiently challenging and satisfying. The more adventurous may consider the ordinary type of tasks not worth their attention. For such leaders, it may be necessary to create more complicated and challenging projects. Enthusiasm of the leaders is also likely to fade away if the advantages accruing from people's efforts are not publicised and appreciated. In some cases of public projects where benefits to every individual participants may not be immediately discernible, a suitable enlightenment would be necessary. People should be suitably made aware of their accomplishments and the advantage accruing from them.

Suggestion to uphold morale

These are some of the probable causes that may reduce the interest of voluntary village leaders and affect their efficiency. A proper appreciation of these points can be usefully manipulated by the development worker so as to minimise their incidence and adopt measures to curb their influence. In addition to a careful vigilance and efforts to eliminate the aforesaid causes of frustration of village leaders, the following positive suggestions are offered to uphold their morale.

(1) Keep the leader properly posted with all the needed information. Let him have the assurance that he will receive all the guidance and assistance necessary for performing his leadership

role. The confidence of the leader, in case he has such an assurance, will always remain high.

(2) Interest among village leaders for public projects should perferably be slowly stimulated and built up steadily. If the enthusiasm seems to be rising suddenly very high and that too at a speed much higher than would be desirable, it should be properly channelled. Care should, however, be taken to see that people do not exert themselves to a point of exhaustion in the initial stages. Sometimes the leaders will work so hard to finish a difficult project that they may hesitate to start another one visualising a similar amount of hard labour.

(3) The worker should refrain from making unusually high promises of external aid long before it can be made available. It is fatal to build enthusiasm on mirages. Some workers are tempted to use this derogatory subterfuge. Conversely, when the promised assistance or supplies arrive in time, morale gets a wonderful boost.

(4) Nothing can be more demoralising than the failure of the outside agency to accord a legitimate and due recognition of the efforts of leaders. This simple principle is claimed to be very widely known, yet it is respected more in its breach than truthful observance. There is also another aspect of this principle which seldom receives the attention it deserves. Recognition must be given promptly and in a manner that meets the approval of the leader and his followers. The villagers may develop an antipathy towards their leader if the praise is showered on the leader alone. The feeling may run high that while the project was completed with the combined efforts of many people, the recognition is being accorded to the leader only. The writer recalls specific instances where sincere leaders expressed the desire not to be praised publicly. In such cases, the leaders can be encouraged personally.

(5) The worker promoting activities of rural leaders ought to be sensitive and aware of the phenomenon of psychodynamics of leadership. People in the villages, like those anywhere else, have a tendency to expect and draw the advantages that they can secure from their leader, but will not be willing to be labelled as followers. This phenomenon of resisting the leadership influence of others and still expecting all the benefits is almost of universal occurance. The worker must deal with it sensibly and make efforts to permit this feeling get limited expression only.

Conclusion

The potentialities of rural leaders in promoting programs of community development in the villages are too well known to need elaboration. Successful functioning of the voluntary village leaders presupposes the existence of suitable stimuli for creating interest among them. Equally important and closely connected with the level of interest of the village leaders is their morale. It is, therefore, essential for the community development worker to be suitably aware of the factors that work for and against the domains of interest and morale of village leaders.

"LAND REFORMS"

By: A. N. RAJAMANI

I. Binocular Survey

WHEN the primitive man passed from the postoral stage to the agricultural stage, he had still the motive for finding food for himself and his cattle. From his settled life, civilization started. With the advancement of civilization, land acquired a value and became a covetable possession. It created two classes in society : the peasants and the proprietors. These two had been at war with each other, and the State had to intervene to restore order.

So the talk of land reform is not of today or yesterday. It is a good old story beginning with the dawn of history. The fight of the plebeians of ancient Rome, the fight of the serfs of England in the middle ages, of France in the modern age, and lately of the fights of the peasants of Russia, gave a life and nourishment for the cause of land reforms. The sufferers were able to secure their demands, though in different forms and to varying extents.

Now the ills of the Indian ryots have been long and patiently borne. Thanks to the Gandhian philosophy of non-violence, they have not still taken the law into their own hands. But there is no guarantee for the future. We see the Communist ideas gaining ground in some parts of the Indian Union. The time is now for peaceful solution or it may never come.

No doubt, the Nehru Government have not been blind to the times. The abolition of the zamidaris, the malguzaris and other forms of intermediaries, and the passing of the measures defining the rights of tenants and landlords, fixing the fair rent and giving provisional occupancy rights to the ryots, and the intention to introduce ceiling shortly, have all gone a long way to solve the ticklish problems on land. But have they given entire satisfaction to the peasants ? Have they ushered in a millenium of prosperity for which the ryots have been agitating ? If not, what more is required to solve the question in full ? We are to find answers for these searching questions.

II. Terminologies Defined

Removal of abuses is called reform. Abuses creep in any system by the efflux of time. Society is not static. It is ever changing, even as the world changes position revolving on its axis giving birth to days and nights and seasonal changes. What was applicable in the past may not be applicable in the present. The present may demand changes in the existing system or order, as a result of changed conditions or it may be that certain privileges and rights have been misused for personal aggrandisement. Change of ideals also necessitates a change in the existing order of things. So reforms are a necessity in a progressive society in all spheres, and the agricultural sphere is no exception to it.

But the content or the concept of land reform appears to change with reference to differing problems and ideologies of many States, countries or political parties. Hence, for the purpose of terminological clarity, it is but imperative that clear and candid distinctions be drawn as between the three main interpretative aspects of the phraseology. The three terms : land reforms, agrarian reforms and rural reforms are interpreted as constituting an order of expanding scope, the first term being immanent in the

second and the second in the third. The first term is said to denote all the changes pertaining to land ownership, organisation and management such as tenure, tenancy, consolidation etc. Agrarian reform is taken to imply all the changes associated with agricultural economy. Rural reform is defined as covering all the changes effected in the rural economy. (The Indian Journal of Agricultural Economics, Volume IX, August 1954, No. 2).

Raleigh Barlowe observes that from a purely technical standpoint, almost any programme that leads to change, presumably for the better, in the manner in which land is held or used, might be described as land reform. But he adds that its exact meaning often is associated with political goals and ideologies; and whereas its meaning may seem narrow and restricted in some cases, it may be stretched to cover an exceedingly broad field of action in others, as implied in the Resolution of the Economic and Social Council of the United Nations on land Reform in September 1951 (Pp 174-175, Journal of Farm Economics, Volume XXXV, 1953, No. 1).

According to the Report of the United Nations, the term land reform is given at least three different meanings. It may refer only or mainly to measures for redistribution of land ownership. It may, as defined by the Government of the United States, mean the improvement of agricultural economic institutions (such as land ownership and tenancy, land rents, taxation of agricultural land or income from agriculture, agricultural credit and produce marketing), while agricultural technology, land utilization and development, conservation of resources and methods of productivity are included only in so far as they are relevant to these institutional problems. A third and still wider interpretation is used by the governments of Australia and Canada, in whose replies it covers policies for increasing agricultural production and improving land use (P 49, Progress in Land Reform, United Nations, 1954).

Such differences in definition appear to be inevitable since they reflect differences in the nature of policy suited or formulated to deal with particular social, economic, political or geographical situations. At any rate, reforms may go to the depth of the situation or touch only the surface as according to the requirement of the times. Now, land is a general term embracing in itself any kind of land. But it is obvious that land refers to only pastoral or agricultural or cultivable lands. Therefore, land reform would convey the meaning that the projected reform pertains to agricultural lands.

But as seen in an earlier definition, this expression is apt to be confused with agrarian reforms and rural reforms. Agrarian reforms point to redistribution of lands which is a root and branch reform. Rural reforms convey nothing more than that they are opposed to urban reforms. Rural reforms not only embrace in their fold land reforms but they may also include in themselves social reforms of the rural parts or they may simply mean socio-economic reforms which may include or not land reforms. To emphasize that in this context we are dealing with reforms mainly in respect of agricultural lands, we are compelled to choose the expression: land reforms. As we are yet undecided about the scope of the reforms whether a simple or radical redistribution is contemplated' or not, it is unsafe to choose the phraseology: agrarian reforms. Hence, we are steering clear of the two extremes, and confine ourselves to land reforms.

III. Types of Reforms

A perusal of the United Nations Report on land reforms affords us a panorama which is both wide and varied. The programmes on land differ vastly from one another. According to the needs of circumstances, changes the character of the reform measures. Barlowe speaks of some of the programmes involving single reforms, while others using a multi-purpose approach. Some involve mild adjustments ; others are far more sweeping in their effects. According to him, a more meaningful criteria for classification of these programmes involves the extent of their exercise of public controls over individual action. With this approach land reform measures may be graded as in the following four fold classification :—

(1) Mild reforms involving some regulations and public assistance, but limited controls :

(a) Laws governing landlord-tenant relations and leasing arrangements ;

(b) Land settlement and development programmes ;

(c) Measures for the provision of agricultural credit facilities ; and

(d) Authority for voluntary land consolidation commissions.

(2) Programmes involving stronger controls, but controls short of land expropriation :

(a) Rent control or rent reduction ;

(b) Mandatory land consolidation ;

(c) Prevention of parcellation ; and

(d) Limitation of the extent of land ownership.

(3) Land expropriation from some owners for redistribution purposes :

(a) Use of public action to divest some land owners of all or part of their holdings with compensation in most cases ; and

(b) Outright confiscation with acts of physical violence at times.

(4) Collectivization and nationalization programmes carried out under government pressure (Pp 177-179, Journal of Farm Economics, Volume XXXV, 1953, No. 1).

There is a certain degree of confusion with regard to the first two items of Barlowe's classification. The distinction between the various types of reforms, in the light of the definitions examined in Section II above, is not clearly made out. As for the other two items under the classification, they smack of political flavour. The ideological divergence in the political arena is reflected in these itemizations. In short, this scheme of classification does not fit in with the definition of the terminology, land reform, adumbrated by us. Rather the difference in classificatory approach emanates from the basis of the principles of change and reorganization in the scheme of land reform.

The Planning Commission of India distinguishes between (1) abolition of intermediaries and (2) agrarian reorganization, with tenancy reforms coming in between. The former includes abolition of all types of intermediaries like the zamindaris, the malguzaris and the major and minor inams. Tenancy reforms relate to security of tenure, regulation of rent, and ceiling on agricultural holdings. The four main aspects of agrarian reorganization are : consolidation of holdings, land management practices, development of co-operative practices and development of co-operative village managment.

This scheme of land reform verily confines itself to one of mending and controlling the old tenure and tenancy patterns with a view to promoting

distributive and economic efficiency. Unlike the Barlowe classification which includes provision of credit etc. as an integral part of land reforms, the scheme under examination here provides a distinction and excludes such measures from the purview of land reform. Hence, if one is to do justice to clarity, the Barlowe classification constitutes rural development as such, whereas the Planning Commission's is indeed strict and precise, which is incidentally in conformity with the definition of land reform adopted by us.

However, the broad classifications adopted herein fall mainly under the following two heads: (1) Tenurial reform: This includes abolition of intermediaries and their conversion into ryotwari and conditions of tenancy thereof; (2) Tenancy reform: This covers fixity to tenure, fixation of rent and wages, co-operative farming and fixation of floors and ceilings on agricultural holdings. Nevertheless, an accurate appraisal of the merits and demerits of the land reform measures could not be had, unless one were to look into its place in the overall scheme of economic growth of the country. This warrants for a related consideration of the complementary measures in force.

IV. Process of Reforms

Save for the measure abolishing the institution of intermediaries in any form, all other measures of land reform had not engendered so much of legal proceedings on their constitutionality, since the adoption of the democratic Constitution of India. Our Constitution, *inter alia*, guarantees certain fundamental rights to the Indian citizens, including rights to own property, to engage in avocations suited to one's taste etc. Rest could it be said that it does not impose any restriction or regulation on our fundamental rights other than those proposed by the government for the safeguard and implementation of the provisions of the Constitution itself. These restrictions or regulations have the force of the Parliament or the State legislatures, as the case may be, which define (s) policies consistent with the overall growth of the country.

Their policy on land has been one of according supreme satisfaction to the tiller as far as practicable, so as to maximise production and sustain it. This has entailed the framing of such a programme which will change the structure of agricultural landed gentry and peasantry. It means a swerve, a deviation from the traditional structural agricultural pattern. There is thereby created a conflict between the two groups: the progressive, representing an urge, an immediate urge for radical reform, and the orthodox or the conservative, representing an anxiety to preserve the old order of things. It is a structural conflict between those offering minimum change and those requiring maximum change.

How to resolve this conflict? When the government decides to settle this, it will have to weigh the social, cultural, economic, political and constitutional aspects or background against which the conflict is set. The progressives may have as much right derived of the needs of times to set reforms afoot, as the conservatives have to retain their olden order acquired over a period either by inheritance, purchase, or possession or all of them. Hence, the resolution of the conflict is as delicate as it is complex. The problems must be handled with care and dexterity. The plexus of rights and privileges of the olden order must be plucked away as imperceptibly and painlessly as possible, if it were so decided upon. That alone would ensure the transition to be soft and smooth. In other words, an understanding of the exigen-

cies of the times is created in the minds of men so that the process of evolution eschewing revolution is set in motion.

Says Dr B. C. Roy: The question that we have in mind is: There are two systems, two methods by which we can approach any incident in human life. One, you may want to change it by a process of evolution, or secondly, you may want to change it by a process which is ordinarily called revolution. The difference, to my mind, is one of degree, one of pace, but at the same time, evolution gives, to my mind, an idea as to what we had before, not only the background, the foundation of what was before, but also a picture of what is going to be in future. The word revolution on the other hand gives us the idea that we go on taking risks without always being able to decipher what is going to be in future (P 2, Estate Acquisition and Land Reforms in West Bengal).

Whereas evolution guarantees dissolution of rights without any violent opposite reaction, revolution strikes at the roots of continuity and creates turbulent, contumacious forces; whereas evolution strikes for success, revolution spells for disaster; whereas evolution springs from sanity, revolution emanates from agitation; whereas evolution derives from clarity, revolution stems from muzzled vistas; and whereas the former fosters collective outlook, the latter nurses fissiparous proclivity. In short reform must make of the delinquents on land a pacific and not an obstreperous species.

Therefore, land reforms, if they are desired to promise permanent and precise results, could not be an imposition from without, but should be the outcome of an inner, inward growth born of a proper perspective of the existing situation on land. This calls for an extensive programme of educatio throughout the rural community and for an intensive programme for social cohesion based not upon birth but upon sheer work. This should be the theme of rural land reform activity. This is what we must strive to do, nurtured as we are, in Gandhian ethics and industry.

V. Necessity questioned

The stage has long been set in all States of India for enacting land legislations as correctives to the morbid and malformed growth of rights and privileges on land. Land legislations have been accorded oecumenical recognition especially in the post-War world for their capacity to accelerate industrial and economic growth by initiating development. The land reforms proposed in Japan at the termination of the Second World War under General Douglas Mac Arthur, the measures taken in the mainland of China or for that matter in Chiang's refuge of Formosa speak eloquently of the significance of land reform. So it would be odd if one disfavoured land reforms.

Rather would it be appreciated if one were to argue for mild instead of strong measures or vice versa. It is an issue for degree, not of pedigree. It would then be germane and not be malafide. Hence, it should indeed be surprising to come across a fundamental objection to the institution of land reforms. Daniel Thorner unearths a surprise for us from the Census Records. The Census Commissioner of India writes thus from the point of view of the data on agrarian structure presented by the Census of 1951: We are thus assured not only that India's present agrarian structure is socially egalitarian and economically healthy, but that it has been developing rapidly in this wholesome direction in the last two decades. The number of

non-cultivating landlords is negligible, and is becoming more so. The number of cultivating owners is large, and has been increasing. The relative percentage of tenants and labourers are small and are growing smaller. (Volume I, India, Part I-B-Appendices to the Census Report, 1951).

Dr. Daniel Thorner is rightly flabbergasted. The only thing to wonder at in the midst of these Census-attested statistics is the strength and persistence of the demand in all parts of the country for land reforms (Pp 3-4, The Indian Economic Review, No. 2, Volume III, August 1956). Discussing the definition of certain rubrics, Thorner is inclined to believe whether the agrarian categories of the 1951 Census were framed primarily for collecting economic statistics or for moulding public opinion against land reforms (P 13, Ibid)...... He adds: The Census figures boil down to a compilation of interesting but not very revealing self-descriptions, which defy closer analysis (P 21, Ibid).

As a matter of fact, the Census Commissioner repeatedly contrasts his true picture of the present position in India with the errors and confusions about agrarian structure which one hears very often, particularly in the context of discussions on land reform. He deplores the widespread misunderstanding of the main land tenure systems of the country, the lack of appreciation of the actual relations between classes, and the vagueness with which such terms as kisan, peasant and tiller of the soil are commonly used. It is so difficult to be sure about what is being proposed or opposed (P 74, Volume I-India, Part I-A Report, and Pp 179, 196, and 202-203, Volume I-India, Part I-B Appendices to the Census Report, 1951; also P 4, The Indian Economic Review, op. cit.).

VI. Necessity Established

It is probable that there has been a certain measure of widespread misunderstanding with regard to the enormity and gravity of the social and economic implications of the land tenure systems of the country. It is also probable that intellectual comprehension with regard to the definition of rubrics such as kisan, peasant, etc. has not been perfect. But it is utterly improbable that statements like, the number of non-cultivating landlords is negligible etc., could be true to facts. On the face of the 1951 Census statistics, the Census Commissioner may be absolutely within his rigits to pronounce such a string of statements. But unfortunately, he seems not to have been alive to a certain set of psychological forces operating at the period of the collection of the Census statistics.

Right from the day Dominion Status was attained by India, the Provincial Governments began to pass land legislations. The vested interests on land had been disturbed and shaken since then. Hence, unless they were able to project a picture answering in their favour, perhaps, they felt that their very existence and continuance on land was severely imperilled. In order to overcome that impasse, they probably deviced a terminological self-portraiture and the agrarian categories formulated in the Census Slip accidentally came to their rescue. May be, all the absentees declared themselves as cultivating landlords. They likewise increased the area under their personal cultivation. At the same time, they prevailed on their tenants to describe themselves as cultivating owners and labourers as tenants. The veracity of these entries were not perhaps checked or cross checked, and the antecedents of the entrants were not enquired into at all. If the concept of Agricultural Ladder

had been tested at least on a sampling basis, it would have provided the key to the enormity of the land problems. No wonder, then, the Census Commissioner was misled by his own statistics. It was the effect of land legislation enacted upto 1951 and the effeet of the threat of measures to follow, which tampered with the statistical representation of their case in their favour.

In sooth, none, who is conversant with the rural agrarian structure and its impact on the agricultural economy, can deny the existence of the maltreated farmer's personality, the existence of exploitation in one shape or other among the agricultural classes and the existence of gross inefficiency in agricultural operations. Even as early as 1949, the Congress Agrarian Reforms Committee, presided over by no less a veteran of Gandhian truthiness than Dr. J. C. Kumarappa, testified to such ills besieging the tenancy structure. As such, the force of circumstances in favour of land reforms is irresistible and appears incontrovertible. The objective is beyond all peradventure an accepted and widely appreciated one. It would be difficult to refute it, leave alone the probability of confutation. If any disputation were to arise, it could only be with reference to details or approach.

There is equally another powerful case for land reforms. Writes Raleigh Barlowe: The present surge in the demand for changes in the arrangements under which land is held and used finds its roots in political change, growing nationalism, and the desire of rural people for greater recognition and for a higher standard of life....The mass appeal and the general effectiveness of land reform as a levelling device in redistributing the basis for wealth makes it a popular and potentially powerful tool (P 874, Journal of Farm Economics, op. cit.).

In short, land reform seeks to remove what Daniel Thorner calls the built-in depressor which is the effect produced by the complex of legal, economic and social relations uniquely typical of the Indian countryside. Through the operation of this multifaceted depressor, Indian agriculture continued to be characterized by low capital intensity and antiquated methods. Few of the actual tillers were left with an efficacious interest in modernization or the prevention of such recognized evils as fragmentation. The pattern of land holding, cultivation and product sharing operated to hold down agricultural production. From the 1880's to the 1940's total output rose so slowly that it would not be too strong to speak of stagnation. The income of the kisans and mazdur-log (i. e. the overwhelming bulk of the rural population) remained at or below the subsistence level. For the newly developing urban manufacturing sector, this in turn constituted a serious handicap in the form of a severely restricted Indian home market. It is difficult to see how India's current plans for economic development can get very far without a concerted effort to remove the depressor (Pp12–13, The Agrarian Prospect in India, op. cit.).

VII. Need For Understanding

In any consideration of the various aspects of land reform or any evaluation of its working, two points must be borne in mind: The origination of the cry for land reform, and its impact on the entire economy. The proposal to take land away from the non-owner-cultivators and to deposit it with the actual tillers is not strange or new—here, we leave out of consideration the extent to which administrators may satisfy this proposal.

It is the one demand that comes directly and vigorously from the peasants themselves. It springs from the realization of one's abject conditions and as such the demand acquires all seriousness, earnestness, and immediacy. It cannot be ignored except perhaps at the peril of a wholesale break out. In the words of Thorner again, the heart of power, prestige and standing in the village lies in land (P 82, The Agrarian Prospect in India, op. cit.). Hence, he advocates the putting of lands in the hands of those who are working it. Though not a cure-all, it will solve some of the basic problems on land.

Secondly, land reform has a place of special significance in the overall economic development of the country, both because it provides the social, economic and institutional framework for agricultural development and because of the influence it exerts on the life of the vast majority of the population. Indeed, in this respect, its impact extends much beyond the rural economy. The principles of change and reorganization on which the scheme of land reform is based are part of a wider social and economic outlook which must needs apply in some degree to every part of the economy. It has, therefore, to be viewed in a somewhat larger context than that of effecting adjustments between the interests of different sections of the population which depend on land (P 177, Second Five-Year Plan, Planning Commission, 1956).

At it has been rightly pointed out, the problem of land reform turns ultimately to this (Foreword, Indian Land System and Land Reform by Bhowani Sen, 1955): Is the programme of building heavy industries (as formulated in the Five-Year Plans) related to a programme of all-round development of industries and agriculture, and, if so, is such a programme of all-round development related to a corresponding expansion of the home market? Further more, is such an expansion of the home market (indispensable if there is to be industrial expansion) possible without making fundamental changes in land relation ?

Land reform is thus a fundamental necessity to industrial growth, and through this, it helps shape the economic growth. If this were understood properly, then there would not be any scepticism with regard to the need or the objectivity of land reform.

VIII. Conflict between economic and social justice

There are two types of efficiency bearing on land tenure system :

(a) Efficiency of agricultural production—this does not refer to any individual farm, but to the totality of agricultural enterprises, to agriculture as a sector of the National economy ; and

(b) Distributive efficiency of the tenure system with respect to a socially desirable pattern of income distribution among the agricultural population. Society values not only the amount of the social product, but also its mode of distribution among the members of society (P 186, Rainer Schickele: Journal of Farm Economics, Volume XXIII, No. 1, February 1941).

It is characteristic of liberal democratic society that it tends to prefer, within limits, a smaller social product fairly equally distributed to a larger one very unequally distributed—especially if this unequal distribution results in a large group of people living below whatever standard of living is generally accepted as decent in a given area and period (Footnote, P. 186, Rainer Schikele, op. cit.)

It is, of course, true that among the aspects of economic growth, the redistributionary aspect is an important and

significant one in all democratic countries. Unless and until the concentration of power which may be in the hands of a few is broken, the democratic character, as it is understood to mean the socialist pattern of society in India, may not evolve. At the same time, it should not be ignored that wealth should be acquired for being redistributed. In other words, both the efficiency of agricultural production and the distributive efficiency should march together.

The Planning Commission of India recognized this. In setting out the land policy for the period of the First Five-Year Plan, while a proper emphasis was placed on the social aspect, it was pointed out that the increase of agricultural production represented the highest priority in planning over the next few years, and that the agricultural economy had to be diversified and brought to much higher levels of efficiency (P. 177, Second Five-Year Plan, op. cit.).

It is, however, stated that any scheme of land reform should help increased agricultural production (P 2, Trends in Land Reforms by K. G. Sivaswamy). But it is necessary to understand the causes for the demand of land reform in India. The cause is social justice which is underlined in the Preamble of our Constitution. But it also appears, as seen earlier in this Section, that whenever any conflict arises between economic and social efficiency in bringing about the needed land reforms, the people and their leaders in the backward countries generally give priority to social justice. Efficiency criterion in the field of production is relegated to background, as the experience has shown, when social considerations are involved (The Indian Journal of Agricultural Economics, Volume X, August 1955, No. 2).

Although economic efficiency is jettisoned, it is not true to assume that it remains so for ever. Here one can clearly distinguish between long term and short term evaluation of the need for the type of efficiency. In the case of India, the first flush of enthusiasm issuing from the nascent Republican status was all for social justice. And this has been in force in the last decade. The result has been an unmistakable underfulfilment of the targets fixed in the field of agricultural production, especially, food production. The Planning Commission, quoted *supra*, virtually by implication admits this. There is, therefore, now a slow but perceptible shift in emphasis on the type of efficiency needed for a backward country. The Nagpur Resolution reflects this tendency.

Differently expressed, it is the Law of Progress that eventually the economic efficiency shall prevail over social justice. In the intervening period when emotionalism or subjectivity interferes with dispassionateness or objectivity, the government should make sure that when social justice was favoured, economic efficiency suffered by minimal degree or vice versa. That alone would ensure not only the ultimate growth in the economy but also would save the country from becoming the seat of lopsided progress and growth as it happened in India in the centuries past. Hence, in the short run, a balance between economic and social justice, and a shift in emphasis in favour of the former in the long run would be helpful in attaining a high degree of socio-economic welfare and sustaining it (Cf. P 274, Rainer Schickele, Contemporary Readings in Agricultural Economics, Edited by Harold G. Halcrow, 1953). This is the lesson we learn from the Indian experience of land reforms.

IX. Objectives

The objectives of land reform can be appreciated better if one perceives the

significance of the background against which it is set. The ambitious programme of industrial development which is now being undertaken implies large and steadily increasing claims both on raw materials and on food production. Food production is yet to reach the level at which nutrition can be improved and domestic requirements are fully assured and met under all circumstances and, at the same time, a margin remains to pay for imports of machinery and of industrial raw materials needed for rapid industrialization. Moreover, with increases in population, growth of towns, cities and industrial centres, and improvement in incomes and consequent standards of living, the internal demand for food is already increasing in volume and becoming more diverse too. The huge outlays made under the current Plan Period could also be fruitfully spent only if internal agricultural production were sufficiently augmented, as otherwise a monstrous degree of inflation would set in the national economy.

Coupled with economic acceleration, it is incumbent on the governments to take such measures which will translate into actuality social justice and equality adumbrated in and forming the arch-stone of our Constitution : The distinction between the rich and the poor, the have and the have-not should be obliterated, so that a rational income would evolve in the rural areas between the owners and the tenants on land, and in the country as a whole between the rural and the urban tracts.

Against the background of such considerations, the objectives of land reform are twofold : firstly to remove such impediments upon agricultural production as arise from the character of the agrarian structure ; and secondly to create conditions for evolving, as speedily as may be possible, an agrarian economy with high levels of efficiency and productivity (P.178, Second Five-Year Plan, op. cit.). Of course, these two objectives are inter-linked. Measures like the abolition of the intermediaries and fixity of tenure fall in line with the first objective. Other measures such as fixation of minimum wages, reduction in rent *et cetera* do contribute for the enhancement of the socio-economic status of the tenantry, thus inducing them to evince greater interest in agriculture for better efficiency and production.

The immediate objectives of land reform have been described above. But the very fact that such land reform measures have been instituted suggests that the ultimate objective is far more than and different from the immediate ones. Land reform initiates and then accelerates agricultural growth and development according to the nature of ills prevalent in the agricultural economy. But agricultural development is actually that part of general economic development which occurs in the agricultural sector of the economy, and indeed in the long run, continuous progress in the agricultural sector is inconceivable without a corresponding progress in the entire economy. Any major change in the agricultural sector has influence on the general economic situation, and any advancement in agriculture will, therefore, tend towards the economic progress of the whole country (P 1, Inter-Relationship Between Agrarian Reform and Agricultural Development, FAO, 1953). From this point of view, the objectives of land reform are again twofold in character : agricultural development and economic growth.

X. Certain Essential Recognitions

Whatever be the precise content and nature of the objectives of land reform, it must be pointed out, that they are necessarily associated with the weal of

the common man. It is immaterial whether he is a ruralite or an urbanite. For, both of them, by reason of their avocations and circumstances, are fastened together as far as their mutual welfare flowing out of a mutual demand and supply of their respective products are concerned. This is the reason why in the course of the execution of the land reform policy which is inclined to disturb the traditional numerical pattern of the agricultural categories of the rural population that care must be taken to emphasize the aspect of human element essentially involved in it. Hence, what we want is a human or humane or socio-economic approach which looks upon agriculture not merely as a technical transformation of matter from one form to another but as a way of organizing resources natural and human so as to ensure certain social ends (P. 17, Sir Manilal B. Nanavati, Rural India, February 1946). In other words, as Mahatma Gandhi frequently stressed, the means and ends should always be given a certain well defined and understood association in order that they are always compatible and satisfy the Laws of Permanency and Justice.

But the genesis of this compatibility lies in the abode of the recognition that land is a social instrument of production as otherwise it would be difficult to put it to optimum use to maintain the growing population in India. Failure of this recognition would mean a double neglect of duties : The governments could not discharge their obligations arising out of the concept of the Welfare State by the people; and the people themselves are positively incognizant of their obligations as members of the community in the face of the abstract rights they like to assert as individuals for comfort and what not. The result of these would be that the nationhood would be forfeited by the country in effect. This is deplorable, and so the causes making for such a situation are to be avoided and rooted out, and instead a social sense strongly secured and stabilised to safeguard our sanity and wisdom, the economy and the kingdom, and to effuse glory and prosperity.

But the results expected to flow out from such social sense are likely to be circumscribed by the nature of the commodity under our concern. It is this: That land is scarce. Says the UN: The existence of very low living standards in an over-crowded country intensifies the need for redistribution of income; but at the same time, rural over-population imposes limits on the benefits which such redistribution can achieve, since the amount of land available for redistribution is generally too small to provide farms of economic size and opportunities of employment in agriculture for the whole of the farm population......This means there is continual economic pressure acting against the enforcement of legislation.. (P 289. Progress in Land Reform, 1954).

Therefore, the ills of agriculture are on the one hand a fundamental malady, a chronic malady, and on the other multi-formed. The solution defies any superficial treatment. It needs as much a morphological examination in a thorough manner as it does a surgical operation with all care and delicacy. It is as much an enigma for the economic analyst as it is to the political mentor or the social reformer. In short, it needs the establishment of an equilibrium between terrestrial interests and spiritual salvation. If abolition of intermediaries looks after the former, the Bhoodan attends on the latter.

At any rate, the gravity of the situation and the enormity of the solution may be

best described in the following words: We found that unhealthy features in land tenure are due either to basic backwardness of an economy or to institutional maladjustments, social, economic and political. We realized that the land tenure problems had roots spread through the entire economy and the remedies had, therefore, to be sought both within and without agriculture. The problems of pressure and control of population, industrialization, distribution of wealth and income, tax and inheritance laws were as germane to our discussion as those of land reclamation, land consolidation and landlord-tenant relationships. We realized that the land tenure specialist may go wrong if he ignores the integral relation between agriculture, the rest of the economy and, indeed, the social order. We also realized the prime importance of education and communication in a land tenure programme. Creating an ideal economic farming unit and putting it in the hands of an illiterate farmer bound to the old ways of agriculture by superstition and custom does little to solve the basic problem (PP 71-72, The Indian Journal of Agricultural Economics, Volume VII, No. 2, August 1952, Conference Number).

XI. Problem of Priorities

The smooth and soft transformation intended to take place on land is conditioned by both the type of reforms and the order in which they are executed. The transitionary period between hatching of the measures and realization of the ultimate objective in view must necessarily be utilized as a period of preparation for the landed gentry to slowly but steadily restrict their land rights in such a way that they renounce their rights absolutely in the last. It can be achieved by graded levels of restrictions on their rights. This is almost the view taken by the Polish Political Party in Power in Poland (P 29 Polish Press Agency, February 1959, Problems and Discussions).

Barring the measures of abolition of intermediaries, all others in Indian States have almost been of positive nature and been administered one by one. The order of priorities has been something like this: security of tenure, fixation of fair rent, application of minimum wages, ceiling level on holdings, consolidation etc. In fact, in the State of Madras, the first three have been through and the fourth is in the offing.

Nevertheless, there cannot be any hard and fast rule with regard to the order of priorities. For any such ordering is dependent upon the nature and volume of agricultural conditions and problems. It varies with reference to the shift of emphasis on the various objectives of land reform. For example, extension of cultivated area and development of resources through control of land use may be regarded as the first priority in plans for increasing agricultural production and promoting general development.

But in all Indian States, abolition of intermediaries was the first measure. This was obviously because the situation or conditions of tenancy on zamindari areas were considered below standard and near-explosive. Hence, the maltreated tenants there had to be released and rehabilitated, if need be, and their tenancy conditions brought on a par with those obtaining in the ryotwari areas before any standardized regulation and alleviation could be effectively effected. Therefore, the tenure pattern of the Indian States was instrumental in putting this negative reform ahead of others.

Although the graded introduction of land reform measures is primarily caused by the adoption of a policy of mollifica-

tion towards the affected, at the same time, the Indian experience tells us, that certain unexpected results are likely to flow out of the order of priorities. In other words, the time lag between the graded measures ends up in even defeating the objects of reform. As an instance in point, the measure of the abolition of intermediaries put the landlords on guard to consolidate their ryotwari rights and privileges. The talk of ceiling yet to be adopted uniformly in all our States has bestowed the much valued element of time lag, within which the land lords have tried to partition their lands and settle them on their kith and kin so as to escape falling worthies of consideration under the provisions of the projected legislation. Hence, when the actual measure sees the light of the day, all the landed gentry would look gay and bright because their lands will not go out of their fold. With the result, the redistributionary programme for agricultural reorganization will have no scope for operation.

This underlines the need to reduce the time lag in the execution of the order of priorities to the barest possible minimum. It calls for a farsighted and sagacious land policy, and an efficient and vigorous administrative machinery.

XII. Ancillary measures needed

Among the four factors of production, namely, land, labour, capital and organization, land reform primarily concerns itself with the first two, leaving inducement and efficiency to work themselves out for capital formation and better organization. Even with regard to land, it attempts only to change its pattern of holding. As regards labour, it endeavours to confer on it certain fundamental assurances in the form of security of tenure and benefits in the shape of reduction in rent and enhanced wages. As such it tends to create primarily an atmosphere charged with optimism, buoyancy and enthusiasm. Beyond this, it does not help transmuting these abstract thesis into its physical equivalent.

This process is left to other measures for transmutation. It means the actual development activity must be generated by some other mechanism. Rightly observes Lee R, Martin: It must be emphasized that land reform is a necessary but not a sufficient condition for increased production and welfare (P 446, Land Tenure in Pakistan and India, Journal of Farm Economics, Volume 38, 1956). There is an imperative necessity for the simultaneous adoption of other suitably required measures.

Therefore, the other measures must be such as to create conditions or circumstances in which the optimistic and enthusiastic tenants will find better scope and facilities to exhibit their talents. From this point of view, the following are some cardinal requirements:

(a) An agricultural extension service;

(b) A programme to provide rural credit for production purposes; and

(c) Programmes to provide much greater quantities of more productive agricultural inputs.

In fact, in a country like India where all the tenants are poor and where the beneficial effects of urbanization are yet to percolate through the rural parts it is absolutely essential that the requirments noted above ought to be put through. And the necessity for such ancillary programmes has now been recognized in all the under-developed economies which are surging forward for progress and emancipation. The United Nations Report on the Progress of Land Reforms testifies to this.

But such programmes alone are not enough. Their scope and overall pertinence must be expanded to cover all sectors of rural activity. In detail, non-agricultural occupations also need to be developed; in such projects as village improvement and road building; or in rural industries—in some cases in large scale industries. Some of these measures might take workers out of agriculture permanently while others would provide supplementary employment and earnings for farm workers and their families while they remain on the farm. Government leadership in these various fields may be necessary, but much must depend also on the effective participation of the farmers and farm labourers. It is in this context that community development projects now in progress in rural areas in different parts of the world are particularly important (P 171, Progress in Land Reform, op. cit.)

The same Report observes further : As to the benefits which land reform policies, and in particular measures for redistribution of ownership can confer, the experience of Asian countries suggests that much depends on the terms of the purchase price of the holding. Where the tenants are not able to pay the purchase price, they experience no immediate and tangible benefits from the transfer of ownership from the landowner to the State; and the financial burden imposed on the State by the payment of compensation is considerable. It would appear, therefore, that over-populated countries which introduce measures of this kind need to give particular attention to this aspect (P 289).

Measures in the field of taxation also play a vital part, since rational taxation not only forces conservation of land resources and land use but also acts as a fillip in bringing about voluntary adjustment in these. The effect of a change in the tax system can be considerable if, for instance, land taxes are made to bear heavily on uncultivated or unproductive land. Similarly taxes based on the productivity of agricultural land as opposed to the actual income obtained may encourage the efficient organization of estates and discourage the under-utilization of agricultural land (P. 44, FAO, op. cit.).

Therefore, the need for an integrated approach to land is established. Such an approaeh necessitates the application of complementary measures in the fields of agricultural credit, education and extension, health and taxation, which are often necessary to the success of the land reform itself. Complementary measures will always strengthen and broaden the favourable effects of land reform. As land reform creates a new agricultural system with manifold needs of its own, it has to be considered as a continuing process.

The history of land reform shows an abundance of tragic failures, which proves the barrenness of the isolated approach to the land problem. One of the most unfortunate experiences was the well intended redistribution of the church lands in Central Luzon in the beginning of the century, which was performed without supporting the new owners with adequate services in the fields of credit and extension; since a sound peasantry consequently could not be established, the greater part of the distributed land has again been lost to the estates (P 44, Ibid).

XIII. List of Acts

In terms of strict nomenclature, all land reform measures enacted throughout India fall in one category or other : Tenure or ceiling, consolidation or

co-operation. But they permit between themselves a wide divergence in provisions thereunder to suit the differential regional pattern in the tenural and tenancy conditions. At any rate, the land reform measures recently enacted in India are considered as quantitatively by far the most important of any surveyed in the UNO Report (P 20). Daniel Thorner too records that the sum total of land reform laws enacted in India since 1947 constitutes the largest body of agrarian legislation to have been passed in so brief a span of years in any country whose history has been recorded (P 14, The Agrarian Prospect in India, op. cit.). Among the Indian States, the State of Madras enacted as much as forty land legislations between 25-10-1947 and 19-9-1956; or at the rate of one Act every eighty days. This includes all amendments etc. carried through.

The volume of legislative activity so far as it concerns land in India or for that matter in Madras State is significant from two interesting aspects of it; One is the supreme consideration bestowed on land and its ownership and tenancy problems; the other is the swiftness with which the enactments have been placed on the Statute book. For these are what are indicated by the mounting number of legislations. As far as the first aspect is concerned, it is well and good that such attention is being paid on the agriculturists. The tenantry will now understand that there is somebody to look after them and their interests. That paves the way for better rural organization.

But the latter aspect, namely, the enactments coming as they do in quick succession either in the form of new or amended acts, throw some light on the efficiency of the law makers. Either the law makers must be highly skilled in drafting the bills which means small duration of time for the preparation of a bill and which consequently implies a high degree of grasp of the problem and a high degree of capacity for evolving a solution therefor, or that the law makers do not think and debate properly the legal aspects of the provisions of the contemplated land legislations and their possible nature and range of consequences. There cannot be any other possibility.

Our experience of the State enactments relating to land comes to our help in pin-pointing the correct possibility on either of the alternative possibilities inferred above. Any number of cases have been preferred by the landlords in courts of law contending against some of the important legislations such as the Madras Estate Abolition Act under the rights guaranteed to them under the Indian Constitution. This shows that the law makers not only fail to satisfy themselves with regard to the provisions which are likely to come into conflict with other laws or the provisions of the Indian Constitution but also draft the bills perhaps hastily and with any number of loop-holes in them on account of inadvertence probably, thus providing opportunities for the aggrieved to take issue with the enactments or parts thereof.

In fact, such sins of omission and commission on the part of the law makers come in the way of the implementation of the enactments, leaving all the affected in suspense and agitation in that process. When once the courts of law are seized of the matter, inordinate delay creeps in what Dr. Thorner calls the life cycle of land reform legislation. He remarks: There is no question but that any length of time which elapses between the first mooting of land reform legislation and th- eventual enforcement serves to butt- the position of the land holdin-

and to weaken the faith of the peasants on whose behalf the action is presumably taken (Pp 16–17, The Agrarian Prospect in India, op. cit.). Such a result is natural, and, of course, is abundantly true.

It is also pertinent to remark here that the land enactments have used certain terminologies such as owner cultivation or personal cultivation, whose import and content have not been made precise and accurate, with the result, not only such acts have proved to be the lawyers' paradise, but also have miserably failed to benefit the intended beneficiaries. The cause for this must be either of these two: It is a deliberate choice of words or expression wrapped up in vagueness and equivocality or it is a quackish job. The former seems to be the more probable cause because the farmer is not as much influential with the law makers or the legislators as the land owner. Even this probability is conditioned by the fact that agrarian pressure group of the farmers fostered by rival political parties is not non-existent nowadays, even as agrarian pressure group of the land owners does exist. At any rate, this needs a detailed investigation.

XIV. Legislative Enactments

Now, the first reform undertaken in Indian States was the zamindari abolition and the creation of ryotwari holdings. This reform has been completed in almost all the States. There has been no two opinions regarding the need for such a reform. Only there is grievance in the matter of fixing the compensation and distribution of the same. If the States had adopted a more generous and liberal attitude they could have avoided much criticism, hardship and heart-burn.

The next stage was fixing of fair rents ...ving security of tenure to the tenants. Various considerations decide fair rent definition, such as quality of the land, facilities of irrigation, price level of land and so on. Obviously there can be no uniform policy or method in this respect though the general principle of doing no injury either to the tenant or the land owner might be followed. But it is regrettable that such a sound principle seems to have been sacrificed in the anxiety to appease discontented elements. The contention that fair rent has been fixed in many States without adequately considering the claims of the land lords, the general economic conditions and investment factor, has some force. Giving a lion's share of sixty percent of the gross produce to the tenants in Madras State does not appear to be wholly just.

As for fixing minimum wages to agricultural labours, the first attempt in Madras State is the passing of the Tanjore Pannayals' Protection Act of 1952 and which Act is fast losing its effectiveness in the changed economic conditions of today. No serious attempt worthy of mention seems to have been made by the States to solve this all important question. Wants have risen. Cost of living has gone up. So the wage levels must be upgraded in keeping with these in the interest of agricultural prosperity. If the salaried people deserved the appointment of a Pay Commission, the wage earners in agriculture subject to vagaries of monsoons, ineffective laws and local conditions such as agrarian pressure groups, demand and supply of internal or external labour force etc. certainly deserved the considerations of a Pay Commission specially appointed.

Security of tenure has also been granted in almost all the States. Even here no uniform rule has been followed. The Act conferring security of tenure is due to expire shortly in Madras. It is hoped

that the Act would be extended or a new one passed ensuring continued security for a further period. One word of caution here : Do by all means give protection to tenants. But suitable provisions for the punishment of defaulting and negligent tenants must be devised. The punishment may be in the form of losing one's tenancy for default in the payment of rent and being negligent in efficient cultivation. These conditions are necessary in the interest of production in addition to ensuring a regular income to the land owners whose shares and rights have been radically cut down. This is only economics and ethics.

XV. Measures in the Offing

The next stage in land reforms is fixing a ceiling limit. But it is easily said than done. Some of the States have gone through this reform. Madras is yet to take it up. A study of the provisions adopted in many States discloses lack of any fixed policy in this vital matter affecting considerable proportion of the Indian population. Some States have proceeded on income basis while others on extent basis. It is gathered from press reports which are not final that Madras is thinking in terms of extent in the matter of fixing a ceiling limit. Considering the problem in all its aspects, income basis seems to be the correct method to adopt. Quality of land varies affecting yield and income, and so it would be safe to adopt the income basis.

Increased production is possible only by employing modern methods and implements in cultivation. This would presuppose large farms. But the establishment of large farms would militate against the desire to do social justice. Disintegration of large farms would present the problem of scattered holdings. To overcome all these difficulties, co-operative farms are advocated. Our Prime Minister and his followers are staunch advocates of co-operative farms. They have abundant faith in its ultimate good to the country. But all cannot see to eye with them. Knowing the Indian peasant's intense attachment to his tiny plot of land, knowing the failure of many co-operatives and fearing the creation of a new form of bureaucracy controlling the hitherto free agricultural industry, there is a large section of public opinion against it. If at all co-operation is desired, it must be preceded by experiments done afresh. The element of compulsion must be completely removed from it. So it is clear that ceiling and co-operative farming must proceed with caution.

XVI. Conclusion

What has been achieved so far in the agricultural sphere by way of reforms is no doubt gratifying. But what remains to be done, namely, fixing a ceiling limit and introducing co-operative farming are not very easy. They bristle with difficulties. There are pitfalls in the course. It is hoped that there would be no dearth of wisdom and patience among our legislators to effect these vital changes with the least possible dislocation in the present order. Now in addition to these measures of land reforms governmental aid in the matter of ensuring a decent price to the producer, finding market for the produce, affording cheap credit and such other facilities would go a long way in augmenting production resulting in general economic prosperity which is the end and aim of these reforms. It is not as though the government (s) is apathetic in these respects. Only a greater volume of help is again and again required.

It is in this connection pleasing to gather from the press notes that much more stress is going to be laid on agriculture in the Third Five-Year Plan. So with

these reforms and aid, the agriculture industry is bound to attain prosperity and at no distant date its prosperity will be felt in other quarters. That day when India can produce more than her wants will be the happiest day in her history. Happiness and prosperity do not lie in satisfying our wants alone, but they lie in our ability to go to the help of those who are hungering. We believe in such philosophy and we are to be working towards that end.

ROCK ROLICS IN TIGER VALLEY

By: Rev. F. K. CONSER

"DOST, Ho! What's that noise on Dandaba?"

"Bundu, that sounds like some Shikaris, but it has been years since anyone went hunting in Tiger Valley. The funny thing about it is that some Smart Guys from Sangli and Poona came here last month and want to change the name. What do you think that they want to call it?

"Ramji, you would not guess in 100 years! I'll tell you. They want to call it Paradise Valley. That is simply absurd. The old Glory has departed. We all own it, but nobody does anything about it. So why should we worry? It has been going from bad to worse for a good many years. I have a faint remembrance that Grand father told me that it was once covered with trees. He said it was a wonderful sight with all the Teak Trees in blossom. I think that he talked about Ain and Kinzerl. Oh, yes he grew quite nostalgic and started off with 'AMB, BAMB, ZAMB'. It seems too bad that this generation lost that interest."

"There is that shouting again. I've not heard so much noise since the good old days when the Rajas spent their Hot Seasons on the top of Dandaba. You know they used to go up there on Elephant back and would invite the Commissioner and Resident for a Big Hunt. Those were the Golden days. We did not have any worries. Food was cheap and Fuel was plentiful. Nowadays if we have grain, we can't get wood to cook our food. Some people say that the wood supply is more serious than we think. That guy from Poona said that he was afraid that there would not be any wood for cremations in another 10 years. The Mamlatdar Saheb is telling us that we've got to stop using Shani for fuel and get it out on our fields. He says a funny thing,—'You are cooking your rice with rice. 'Now, I ask you, Did you ever hear of such a silly idea?"

"Let's see, that is not as stupid as it sounds. That is exactly what we are doing. We **ought** to put that dung back on the fields, where it came from and where it belongs. Then we would be getting bumper crops. The Soil is our Mother and if we don't care for her she will not care for us. Panditji is telling us that things are more serious than we think. The whole situation is so desperate that I do not quite see the answer. If I put the manure on the field then I have to cut those young saplings that Jungleraj is planting. Gee, I do not like to do that. He plants them with such love and devotion and then gets our kids to help him. They do have

happy time together. And I have to admit that they do an awfully good job. I hear that their results are way above the average."

"Say, that is a real roar. I'd like to know what is happening. We are sure that it is not Tigers, so it must be Tiggers (kids). There they are shouting again, just as if some one hit the mark. Let's go and see. It is quite a step and I've not been there since the dam washed out a few years back. I hanker to see the place and this is Gandhi Jayanti and I think that we might as well celebrate."

"Ramji, I've been pretty strong on this "Two Hands and a Will" idea. Now you want to revise it and say, "Two Feet and a Will". Not a bad idea at all. I'm with you India is on the move, but the villages are not moving fast enough. Think what we could do if we dedicated 80,00,00,000 of hands to the service of Bharat Mata and then got as many feet moving on the job. That is what I would call Nation Building."

"I don't mind looking on with 2 eyes, but I'm not so sure of that 2 Hands and 2 feet idea. If we would just wait long enough may be Government would do it for us. This Welfare State idea suits me fine. America has a lot of gold and too much wheat. They seem to want to help. I don't know what the deal is, but I'd be the last to refuse it, Bundu".

" We are a Free Country and I detest this economic dependence. It is not good for our soul. Let's refuse with Thanks, but no regrets. We can add a smile for all past favours, for we are not the least ungrateful. This new Vikas set up is a wonderful thing. These are our own brothers. They have dropped that pious idea of working ' for us '; they really want to work 'with us'. Then we can take some pride in the work. That will help us to Economic Freedom. Political Freedom is not going to satisfy until we win the Battle of Bread. "

" Well, well, I wish I could read and do a little thinking on these subjects. I work hard and never had any ambition to join that Social Education Class where you got your start. May be I'll do that after Harvest is over. Bundu, you are a good farmer, and you are getting ahead, but in spite of all my work I'm hardly breaking even, let alone getting bigger yields. Say, this is quite a walk. Those kids must have been 'dog tired' before they got there. You would not see me sending 'em to the Hills. They won't do anything. It is just time wasted. They use up their energy in yelling and shouting. They must be having a swell time. I should not grumble. They are in good company, and you know they don't fight as much as they used to. That Jungleraj was trying to tell me that Trees make Friends. May be he is right."

'Ramji, I'm not much of a philosopher, but I say that the 'Tree makes Free' and we ought to plant them by the millions. If we had Trees and Grass on Dandaba we might get more rain, but we would have less floods. You know that we attach a lot of importance to old Dandaba. We call him the 'House of Rain'. The Old Folks used to say that 'When lightning flashes on Dandaba it will rain in 2 days". The funny thing about it is that they are right almost every time. That old Hill is a little hard to explain. Forest Headquarters want to make us believe that it belongs in the Western Ghats. That is pretty hard for me to swallow, I know that it belongs to us and I'd fight if any one wanted to take it away. Actually there is a rumour about Gold and Diamonds up there. But I'm beginning to think that the real gold is green and that it will grow under pretty difficult circumstances. May be diamonds are dew drops in disguise".

"Bundu, you are waxing poetic. Your talk sounds good. I'd like to believe it. You made my heart beat a little faster and I did not mind the walk at all. Gee, these hill sides are full of school kids. And they are working like beavers. I'm afraid that I under-estimated them and their teachers. But they are not planting Trees. This is some new stunt and I don't approve of it. I think that they are trying to start an earthquake or something. Do you hear that rumble. That is a big rock rolling down the hill. Can you beat that for Tom foolishness? May be I did when I was a kid, but we never yelled like we were mad. I just wonder if the A. O. and 'R. P.' know all about this? Someone has been telling me that Yeolvi Saheb is in favour of all these stunts. I wish I were running the School Board."

"Take it easy Ramji, these are new days and if we just look and listen we might get some new ideas. Here we are at the old dam. No one is working at it. This strikes me as the logical place to start. Think of all the silt we saved in the long ago and then in one big flood lost it and all the crop too. We need water so badly. It is usually a scant Rainfall, but every once a while it is late and heavy and then we have all this damage. Some one says that little dam cost Rs. 12,000. We farmers can't throw money away like that. I don't know much about Soil Conservation but I just bet there is a solution to a problem like this."

"What do you think of it? Why the Desing School is here. That is a long walk, but those kids are working like Trojans. This beats me, I begin to feel a bit younger myself. I would not mind rolling down a rock or two. Swami Master is there with his 'Wanar Sena'. I must talk to him".

"Why did you two come? I never dreamed that I'd see you at a Shramadan? I'd have thought that you would be sweating in your own fields. Of course, this is your field and you are pretty smart to come along and give your kids some encouragement. This is hard work but your kids like it and so do the teachers. It would be twice as easy if a few more parents would come along with their 2 hands and a bit of determination. I know a lot of them call it foolishness, and would not even move their little finger in a cause. Look at that dam there. It is a total loss. But I promise you that there will be another dam there someday and that it won't be damaged. I'm teaching your boys and mine a lesson that they need to learn. I'm teaching them to 'Teach water to walk'. These Gully Plugs will do that very thing at no cost. No sirree, not one Lal Naya Paisa. You could not hire these kids to come here for money. This is a Shramadan and they are making a picnic of it. We call this a Rock Rolic and you could not buy this much fun for your kids in a circus."

"Swamiji, you are older than we are, but you seem to have found the Fountain of Youth. I've heard about stones crying out and something about 'Sermons' in stones, but I never knew that they made as much sense as this. I guess that they have been here for a 1000 years and you are moving mountains. You have a lot of Faith. We farmers just keep on keeping on, but we never seem to get ahead. I guess we lack Faith and vision."

"Bundu, you can have it if you want it. I' am glad you brought Ramji. This stream here keeps water in your wells. When it dries up too soon you are in real difficulty. It runs too fast, dies too soon. We are putting in Gully plugs and we catch silt at each point and hold some moisture too. This holds the Top Soil and I'am teaching your lads that

Top Soil is the 'Life Blood of the Farmer'. These stones really do talk. They are 'Pay Dirt.' God made a pretty good job of Creation, but we are not doing so well on Conservation. You know, these stones are the source of all our Black Cotton Soil in the Deccan. They are just full of Plant food. That is why Grass grows on Rocky Hillsides in the monsoon. Yes, we planted some Grass today. Nobody seems alert to our Grass problem. This is the ideal spot for a Grassland Demonstration. Our Jungleraj is quite excited about Grasses. He danced a jig today when he saw some of the new species doing even better than he had expected. That just proved to him that Tiger valley is a very choice spot. We all wish him well, but we keep telling him that Grass grows by 'inches and not by feet', least of all cow's feet. Nothing seems to discourage him. He acts as if the future of India depends on Trees and Grasses."

"I think this is more a tamasha than a Shramadan. I've been hearing about trees and you begin by telling me about Grasses and Stones. I don't claim any relationship with them. There are too many stones here and I spend too much time grubbing Grass out of my Jowar field. Why don't you plant a few Trees and I might believe that this escapade was worthwhile? Of course, if you could slow down this stream I think that it would be the best Tiger Taming Trick in our Taluka."

"Ramji, we always plant Trees. That is how this whole idea of a Hill Station and Flood Control really started. Trees are still central to the scheme. We planted some shisham as soon as we got here and we put sandalwood seed in the lantana. Sure, sandalwood will grow here. It is the most valuable tree in the world and lantana is its best host. Every one of these trees will bank water and halt erosion. You see those Home Guards over there? They came all the way from Miraj and Malgaon. They are still planting trees and they are doing it with patriotic fervour. You get the benefit, but they are entitled to some of the fun. They are just itching to get at the big Gully Plug that has been assigned to them."

"Master, I congratulate you and your kids on this fine job. I'm reading nowadays, but still have a long ways to go. This all fits in with my little understanding. We sing songs and then learn to read and write. If you find that singing and shouting is a good way to get a job done then I say more power to you. I just wish that some of my fellow-farmers would wake up. Why does Youth have to lead the March?"

"Bundu, cheer up! There are leading Business People from Sangli here today. They are planting Trees and Grasses and putting in their own Gully Plug. They want to have better Urban-Rural relations. They know where the farmers are happy that country is prosperous. They have voted a Bhaksheesh for the new School that we are opening today. College Professors and students are here a little farther up the Valley. These patarians think that this is a wonderful place. They want to come again and again. Government has a friendly eye on the place. It used to be the Hide Out of Freedom Fighters. Now it is going to become the Picnic Place of all South Satara District. I guess Bhosa School will want to adopt all the Trees. Call Desing back for the next Shramadan and keep a little room for Soni High School and Kersing. Dandaba will never lack for Volunteers".

WAYS AND MEANS TO IMPROVE INDIA'S AGRICULTURAL PRODUCTION

By: M. V. EDAKHE

IT is an established fact that poverty anywhere in the World endangers prosperity in general. India is blessed with plenty of natural resources, but it presents a paradoxical poverty. From time immemorial, the chief occupation of our people seems to have been tilling the soil. The same is recognised and given due preference in the Economic Plans of our country.

India is an agricultural country where agriculture is an industry of great national importance. The majority of the whole population depends upon the fruits of the good earth for their livelihood. But the Indian farmers in general unlike their counterparts in other countries are the poorest of the lot. The Indian peasants are ill-clad, ill-fed and ill-bred, and there is an acute shortage of foodgrains every year. The Government is confronted with this gigantic problem of food shortage and the poverty of the teeming rural population. The students of Economic Research are overwhelmed with Agricultural Economics. Various Evaluation Organisations are studying the fundamentals of rural problems. An under-developed country like ours is inevitably backward in the field of Agricultural research and agricultural Economics. Now that we as a nation are launching upon a career of rapid and many-sided development, all this has to change and change quickly; for without knowledge, we can not build firmly. The first and the foremost need is to find out a device that will suit our country and the soil to step up agricultural production. The welfare of the society and the country at large depends upon how far we could tackle this problem successfully. On this alone can we lay the foundation of Socialistic Pattern of Society.

Agricultural output in India fluctuates according to the vagaries of nature. The economic hazards of farming in India are well known. They are most severe and frequent in subsistence economies and for low income farms, functioning on inadequate credit and marketing conditions. Most countries have sought to alleviate peasant distress especially when arising from natural calamities through relief measures, such as reduction of land rent and taxes, scaling down of debts, supply of farm credit, implements, seeds etc. Such relief is all too familiar in India. While it serves to mitigate hardships, the farmers can not expect or receive it as a right. Its extent and character is determined by the policies and resources of the Government. The farmer is not made completely free from anxiety even when relief takes a statutory form. Economically it is far from desirable, being a drain on public resoures and hence we could not increase our agricultural production to a large extent.

The Planning Commission is taking steps to have a 15 to 20 year programme for irrigation projects and also estimates for the same period of increases that can be obtained in Agricultural production. The following extract from the Report of the World Bank Mission to India, in 1956 shows the possibilities of increasing agricultural output in our country.

"Proper application of known techniques, in conjunction with the

possible expansion of irrigation and and the cultivated area, could increase India's agricultural output four or five fold. By the time that has been achieved new techniques will have been evolved and the way will be opened for further progress. Results of the crop competitions organised for the Grow More Food Campaign show yields about seven times higher than the local average. India's yields are at present among the lowest in the world; with the labour force available they could be among the highest. There is thus a great deal of scope for progress that is technically easy but is retarded by povery and ignorance. As progress becomes technically more difficult, the rate will be maintained by the increasing power of educational forces that will develop more slowly."

It is a fact that our National Economy is mainly dependent on the fortunes of our premier industry-agriculture, and hence it is imperative to build up and strengthen our food resources for our large and growing population.

"Grow more or perish" is the living problem of our operational pattern of agricultural industry. To produce more requires planning and it is the result of the adoption of some of these well planned measures that the production of foodgrains went up by 20% during the period of our First Five-Year Plan. From the base level of 54 million tons, food production rose to 58.3 million tons in 1952-53 and 68.7 million tons in 1953-54. However, in 1954-55 food production fell to 65.8 million tons and in the last year of the First Five Year Plan it declined further to 63.5 million tons.

It is clear that the country is yet far from assured of sustained and continuous growth in agricultural production. This situation was reflected in the rise in prices of food articles by about 18% between February 1956 and February 1957. The Planning Commission in a letter to various State Governments dated 22nd February 1955 suggested that they should attempt to double agricultural production in 10 years.

In connection with the Second Five-Year Plan, the Commission suggested an increase of 40% in the Five-Year period. During the first 2 years of the Second Five-Year Plan we have seen that the increase in Agricultural production does not quite keep pace with the growing demand of foodgrains. Since the population is increasing every day, the demand for foodgrain also is soaring high with the anticipated rise in the standard of living. Therefore a successful method has to be invented lest we perish.

Problems in the way of production :—Our India has plans and plans alone; that is not going to help us in solving the food problem. No doubt the series of quinquenial plans of the democratic India will change the signifiance of agriculture in the National Economy and the problem of making the balanced diet available to every individual would be considered seriously. There are certain causes which do not allow Indian Farmers to escape from the clutches of the following evils :—

1. *Over burden of population on Agriculture* :—Taking the agricultural population as a whole—249 million, constituting 69.8 cent of the total population, 71 millions are self-supporting persons, 31 millions are earning dependents and 147 millions are non-earning dependents. The 71 million self-supporting persons come under following categories :—

Owner cultivators	..	45.7 million.
Tenant cultivators	..	8.8 million.
Cultivating Labourers	..	14.9 million.
Agricultural rentiers	..	1.6 million.
		71.0 millon.

The above figures show not only that a disproportionately large part of our population depends on agriculture, but also that it contains a relatively low proportion of workers. Four fifth of the teeming population of the country still continue to live under rural conditions and even the factory workers of the towns as well as the commerical classes continue to retain their connections with the villages. The over burden on land must be minimised and the farmers who do not work themselves should give up their possessions to other farmers who can produce with economic efficiency.

Effective steps like family planning should also be taken concurrently to limit births to approximate parity with deaths and thereby achieve a substantially stationary population. Births will get limited to approximate parity with deaths, if 'Improvident maternity' is avoided by all or most married couples.

A combined approach to the solution of our food problem is essential e. g. increase of agricultural productivity from the present level of approximately 700 lakhs of annual tons to about 940 lakhs of annual tons and reduction of improvident maternity from over 40 percent (at present) to under 5 percent. If these two targets are accorded equal priority and ranked higher than all other development targets, they can be attained before population increases beyond 45 crores—our total number will then become substantially stationary round about 45 crores.

2. *Defective agricultural implements*: Old fashioned implements and antiquated methods of agriculture impede the progress of the rural population. Use of modern agricultural machinery and methods should be introduced in the villages through various co-operative societies, with modern means of propoganda. For this the Government must make provisions for liberal grant of all kinds of loans through Co-operative Farming Societies and Service Co-operatives.

3. *Lack of Fertilisers* :—Indian Farmers find it difficult to procure the much needed fertilisers for cultivation. Most of our farmers are ignorant of chemical fertilisers which help in increasing productivity. The Government can provide these fertilisers through Better Farming Co-operative Societies.

4. *Bad quality of seeds* :—Under the stress of starvation the farmer finds it impossible to keep aside the required seeds for the next season. Naturally they are compelled to buy some kind of the grain to call it seed would be a misnomer. This again tends to lower the efficacy of agriculture. Lack of proper research in this sphere is another nail in the coffin. This can be overcome gradully by setting up more seed farms under expert guidance of the Agricultural Departments of the State Governments and the Central Government and through co-operative Better Farming Societies.

5. *Lack of irrigation facilities* :—Indian agriculture being dependent on the monsoon, the problem of irrigation is acutely felt. The First Five-Year Plan struggled to quench the thirst of more than 21 million acres of agricultural soil, but success is yet to be achieved. Use of pumps and such other contrivances should be encouraged for more production.

6. *Defective methods of cultivation*:—The peasant's ignorance together with his staunch conservatism gives no scope for the free use of better implements. Mechanisation of agriculture can be achieved only by a proper training in novel agricultural methods extended with due consideration of their age-old

outlook. England, U. S. A., U. S. S. R., and other well developed countries have effected progress mainly through co-operation and mechanisation. The Japanese method of cultivation is expected to be practised in 7 to 8 million acres in the Second Five Year Plan period. There are improved techniques for wheat, cotton and jute also for which Governments are providing finance.

7. *Fragmentation of holdings*:—We have to spend crores of rupees for foreign imports of foodgrains every year. To ensure maximum production we must stop fragmentation of holdings in every state by framing rules and regulations. The law for consolidation of fragments also should be framed. Here, co-operative Joint Farming can play a prominent role.

A decade and a half back the Father of Nation observed "I believe that we shall not derive the full benefit of agricultural production until we take to co-operative farming. Does it not stand to reason that it is far better for a hundred families in a village to cultivate their lands collectively and divide the income therefrom than to divide the land anyhow into hundreds small portions?"

World to-day is moving towards the ideal of collective or co-operative effort in every line of life. We can attain our object of more production through co-operative Joint Farming.

8. *Soil erosion*:—This robs the land of its natural fertility. Immediate preventive measures should be taken by the Government in this field. Afforestation can solve the problem to a great extent. Co-operation of the farmers in this sphere can work wonders.

9. *Rural Indebtedness*:—This has been the great curse of the Indian farmer. The Indian peasant as the saying goes is born in debt, lives in debt, dies in debt and bequeathes debt. The farmers do not get financial help at the proper time for agricultural expenses and hence they are compelled to borrow from the village Sahukars or banias at an exorbitant rate of interest. These along with many other factors throw the farmers into the gallows of indebtedness. The Reserve Bank of India with the help of State Bank and certain other allied branches is trying to extend credit facilities to the farmers through various co-operative credit societies.

10. *Defects in marketing*:—There are many defects in our Agricultural Marketing as enough regulated markets are not available at large. The lion's share of the profit is swallowed by the middle men. Standardization of weights and measures, facilities for storage through Grain Banks are problems deserving immediate attention.

11. *Lack of Agricultural information.* Much that is done in the field of agriculture remains unknown to the farmers. They do not gain by weather forecasts published or broadcasted. Such information should be made available by the Government through various bulletins on agricultural topics.

12. *Enforced Idleness*:—A side business—cottage and village industries can solve this problem. They are a second string to the bow. Animal husbandry, co-operative dairy farming, fisheries, palm Gur manufacture, hand pounding, soap making, spinning and weaving, Ambar charkha and the like can provide employment and side income to the farmers during their idle season. Under the best of conditions, agriculture is possible over 75% of the cultivated area only for four to five months of the year. During the rest of the year employment apportunities are limited and intermittent for the millions in the

countryside. To complete the picture, it must be mentioned that every year about three million are added to the population which land has to support. It is estimated that even after several years of intensive efforts under the Grow More Food campaign, only 2 to 4% of the cultivated area has come under the influence of improved scientific methods.

Along with these tremendous evils there is a lack of sympathy from the educated classes. Rural occupation and rural life are held in contempt by modern graduates. But we can not forget that these poor agriculturists are the backbone of Indian economy. The educated young men can teach the villagers, in spirit of service, the successful methods followed by other countries. They can also impress on them the necessity of insuring their crops and thus can act as their mouth-piece standing between them and the Government.

The problem of agricultural production in India, can never stand by itself and can never be solved unless the planning that we are considering is taken as an organic part of a wider planning-that extends its activities to all aspects, not only of our economic life but social and cultural ideals also. The planning of agricultural production must be correlated to a planning of industrial production from below to feed millions of Indian people because industrialisation in turn promotes agricultural development and efficiency by providing it with power, better technique, and improved marketing, transport and other services. The combined effect can create an internal market for goods and services which will give impetus to agricultural and industrial production. Then we can achieve our ultimate aim of Socialistic Pattern of Society through Co-operative Common Wealth.

MATCHES OUT OF USED RAILWAY TICKETS

By: NAROTAMLAL C. TEJPAL

1. SAFETY Match Industry in India is a 25 crore Rupees Industry, of which Rs. 10 crores are earned by the Excise department.

2. In parts of Europe and America where the soft match wood is not available, the matches are manufactured out of card-board, tissue paper or cotton.

3. In our country about 1600 mature 'SEMALA' trees are felled for a single day's requirement of matches. While manufacturing splints and veneers 70% of the wood is wasted, and this type of wood is even useless for fuel, as it gives only smoke and no fire.

4. If we want to conserve our forest wealth and plant more valuable building timber instead of soft match wood, we should start manufacturing matches out of card board on cottage industry basis creating more employment.

5. The used railway TICKETS will serve the purpose of manufacturing BOOKLET TYPES of matches. The USED TICKETS be well dyed black to cover its original printing and deface the same and then cut into Combs by a

machine. Each ticket will make 10 match splints, and 2 such tickets will make a booklet containing 20 Matches, which could be retailed at 2 nP. each.

6. The process of cutting the tickets will be done by power machine at the seat where the tickets would be available and then the same will be distributed throughout the country among the cottage workers or to the schools run by the RAILWAY BOARD for manufacturing matches by hand-driven machines.

7. The cost of the matches would be so low because the material used is discarded Railway Tickets that we can even export them at competitive rates to Red Sea, Persian Gulf Countries, Africa and South East Asia.

8. Half of the total production of matches is used by the smokers. It is estimated that 22500 crores of Bidis and 2400 crores of cigarettes are smoked yearly in India, which require 20 million gross of matches out of the total production of 40 million gross.

9. The Booklet matches would be an ideal one for the smokers ; while to the average poor people matches costing 2 np. would be more acceptable than a match box costing 6 np. So considering the requirements of smokers and poor people as well as export market, we can produce and market 30 million gross of matches, giving employment to 60 thousand people giving Rs. 2/- as daily wages to each person employed.

10. It should be noted that at present the Swedish managed WIMCO concern is manufacturing 30 million gross of matches giving employment to only 9000 persons in its highly automatic factory.

11. Further the booklet matches is the best medium of advertisement, as it reaches in every nook and corner of the country and every person is sure to read the text printed on the covers of the booklet, every time he reaches to strike the match. It would be an ideal means of advertisement to attract tourists, pilgrims and holiday crowds. The advertisement income would be at the rates of 50 np. per gross which means an extra income of 15 million rupees to the Railway.

12. If the Railway Board desires, the industry could be organised in such a way that the education cost for the children of the Railway employees could be covered by getting the matches manufactured in the schools ; an hour of work would pay 25 np. as wages to the students, thus making the education self-supporting.

13. The cost of manufacture of 1 gross of 60's matches out of USED RAILWAY TICKETS, in a unit of 100 gross (60's) daily production. :—

	Material.	Labour
Cost of used R. Tickets $1\frac{1}{2}$ lbs.	Rs. 0. 1.6.	
,, ,, Black dye.	0. 0.6.	
Cutting & dyeing labour charges.		0. 2.0.
Chemicals for match tip & paraffin	0. 6.0.	
Card-board covers for booklets	0. 8.0.	
Packing materials.	0. 6.0.	
Stitching wire for booklet.	0. 2.0.	
Labour :—		
For tip dipping & parafinning.		0. 3.0.
Booklet stitching		0. 2.0.
Bandrolling and packing.		0. 4.0.
Monthly wages and Msc.		0. 5.0.
Total..................	1.8.0.	1. 0.0.

14. Total cost of 1 gross of (60's) matches in booklets would be Rs. 2.8.0, the excise duty per gross is Rs. 4 which would come to Rs. 6.8.0. and the sale price would be Rs. 7 cif. station of the whole-saler.

15. The worker would get Rs. 2. as daily wages, as he can manufacture 2 gross per day. Further it should be noted that the manufactured matches would be uniform, as the whole process depends solely on the precise machine, the worker has only to turn the handle of the machine or press the foot on the pedal of the machine.

16. If the scheme is accepted the Railway Ticket Checker should be instructed to punch the tickets in any place between half an inch from any corner of the ticket or atleast 1½ inches of the ticket should be kept whole and clear without punching, so that the breadth of the ticket will make 10 matches.

17. In the above table of the cost of manufacture, in the last item of monthly wages and misc, I have accounted for ½ anna per gross to be paid to the chief organiser of the scheme who would be responsible to organise from manufacture to marketing of the matches, plus travelling accommodation in the Railway.

VEGETABLE GROWING

By : H. M. DESAI

(Continued from March 1959 issue)

VI Environmental Factors

CLIMATE and soil are important natural factors affecting the plant growth and determine the variety or varieties that will grow under these conditions.

In vegetables both quality and flavour are desired. Those vegetables that satisfy the common taste find a ready sale in the local market and also have a demand from other centres.

These environmental factors either control quality of vegetables in their growing period or during and after the harvest period to the time of their consumption.

The climatic factors are rainfall, temperature, light, air, storms, frost, etc.

Soil factors are type of soil, soil moisture, soil temperature, soil aeration, mineral supply, soil reaction etc.

Interaction of these factors create conditions either favourable for growth and quality or other-wise. For example, unfavourable factors result in creating conditions favourable for the pest or disease attack, which take a heavy toll of the produce, in case the trouble assumes an epidemic form.

Of climatic conditions, rainfall and temperature are very important under our conditions.

Rainfall may be either seasonal i. e. confined to monsoon months from June to September (S. W. Monsoon), as is the case in most parts of Bombay State or may extend upto November, i. e. receive advantage of both, the S. W. and N. E. Monsoons as occurs in parts of Mysore State, Andhra and Madras State.

In most parts of Bombay state the monsoon season is precarious and there is always a fear of scarcity of rains. Parts of the E. Deccan and the E. Karnatak are known as scarcity areas,

where occurance of famine conditions is more frequent.

To ward off the evil effects of scarcity, there is provision of canal irrigation in these areas. Facility of irrigation by canal in the scarcity areas is being extended in the "Five Year Plan" periods launched by the Union Government.

Due to this limited factor of water supply, vegetable crops are grown as rain-fed crops in the monsoon season and as irrigated crops in other seasons. Usually these crops are grown where there are irrigation facilities, even in the monsoon season, as a stand by.

Temperature is another factor which controls vegetable growing. In the monsoon season when the range of temperatures is small, most of the indigenous vegetables are grown. In the cold weather when the temperature goes down to the lowest point, most of the vegetables of the foreign introduction succeed. Crops like cabbage, cauliflower, knolkhol, beet, potatoes etc., are grown successfully in a tract, where cold conditions occur. In other tracts, though these vegetables are grown, the success is limited because of occurance of pests and diseases. In the hot weather where there are irrigation facilities, indigenous vegetables mostly succeed.

In tracts where seasons of growth are of short duration, quick growing crops succeed. Where seasons are long, better varieties of vegetables of quality are grown. No attempt, to grow vegetables under controlled conditions, is made on commercial scale in any part of Bombay state because of economic reasons.

Along with climate, soil is another natural factor controlling the plant growth.

Soil is a home in which a plant grows and thrives. Skeleton or frame work of the soil, therefore, should be favourable for plant growth. These favourable conditions mean, ample water supply during the growth period with sufficient sanitary arrangements i. e. aeration. Suitable soil should supply sufficient plant food material dissolved in soil water so that the plant can utilise it. Along with these favourable conditions the reaction of the soil must be suitable for plant growth. It should neither be too acidic nor saltish.

When all these factors are suitably adjusted in soils for growth, the conditions are said to be favourable. Not that all plants need the same identical conditions in soils for growth, their requirements vary.

It is, therefore, essential to understand the habit of growth of plants we are raising and to manage soils in such a way, that, the favourable soil conditions for crops are created and maintained. The technique of cultivation therefore, demands thorough understanding of soil conditions and to manage these in such a way as to create as near an ideal condition of soil as is possible to do, for the crops we are raising.

In other words, the art of soil management should be based on the scientific understanding of soil as a home in which seeds germinate, plants grow and mature.

VII. Habit of Growth

For raising the crops successfully and economically, the knowledge of their growing habits in their various phases is essential. The present cultural practices are based on the past accumulated experience which may need suitable adjustments as a result of scientific researches and experiments that

are in progress on the various agricultural research stations and farms.

Systematic study of the habit of growth of the garden crops under the various environmental conditions is not yet undertaken.

Some systematic observations on these lines were carried out at the Agricultural College Farm, Poona, in course of routine practical training of the boys, who had taken garden crops as their special subject of study in agronomy, in the final year class. As a result of these observations and studies, critical period in the growth of some of the garden crops were established, which helped to make suitable adjustments in the routine of some of the crop husbandry practices for obtaining higher yields of better quality with lesser cost.

The Agricultural College Farm, Poona, is situated in the transition tract of the Deccan area, where rainfall is about 25 inches mostly confined to the monsoon months. This scanty rainfall is also ill distributed.

The Soil of the farm where garden crops were grown was of clay loam type. The farm area is protected by a small canal.

Under these environmental conditions of the farm, the root and tuber crops were not growing normally, and as a result yields obtained were not economic. The observations carried out showed that, the prevailing method of raising these crops in beds was not conducive to healthier growth of plants.

The bed method of planting was changed to raised bed method, which resulted in providing suitable growing conditions for the underground parts of the plants. These studies also helped to determine the active period of growth, for adjusting the manurial dozes to better advantage to crops. The modified raised bed method of planting also helped to timely earthing up of plants when it needed better home for roots, rizoms and tubers to develop actively and to their full size.

All these adjustments in the cultivation practices meant more yield and better economic returns. Observations on the tumeric crop indicated two distinct varieties, which when grown separately showed that, the one with thick fingures was a high yielder and the other with thin fingures was a yielder of quality produce of cured tumeric.

The study of double bean crops helped to adjust the planting distances to 5 by 5 feet, and to provide supports to vines when plants were in tender stage. These adjustments helped plants to put forth healthy growth and subsequent larger yields by checking over-crowding of plants, which resulted in the reduction of insect attack.

The field observations of the plant growth also suggested that, the vegetables like beans, guvar, tomatoes, brinjals, bhindi etc., in which growth, flowering, and fruiting go on simultaneously, should be manured in small and frequent dozes in order to prolong harvesting season over a longer period of time with larger yields.

In case of a French-bean crop it was observed that, later sowings (i. e. in July and in August) were invariably associated with the stem fly attack. As a result, these plantings were usually failures and need avoiding.

In the cabbage crop, the early medium and late varieties should be planted mixed in order to take the best advantage of the Poona market.

In the case of onion raising, it was observed that the bed method of planting gave less yield but of better quality of products while the ridge and furrow method of planting gave higher yield of inferior quality. These instances will suffice to establish the importance of such a study in order to evolve the most suitable agronomic practices for vegetable growing.

For an agronomist working as a research worker, or a teacher, or as an extension officer, a thorough knowledge of the habit of plant growth of his tract is quite essential in the discharge of his day-to-day advisory duties with responsibility.

VIII. Technique of cultivation

For raising crops, the field operations that are required to be done to fit soil for plant growth are grouped under the general heading of Soil Management. Soil-cultivation forms an important item in the soil management practices. The sole object of soil manupulation is to provide an ideal home in the soil for seed germination and plant growth.

As soils of the various agricultural tracts vary so also the soil management practices.

In the Peninsular India we have various types of soils formed under varying topography and climatic conditions. On the one end we have gravelly shallow soils on hill slopes (mostly eroded to a varying degree) to very heavy and deep soils in the valleys as in the Deccan and Karnatak areas. In the alluvial areas the alluvium may be light, as in the North Gujarat areas, to very heavy and deep alluvium in the South Gujarat areas in the Tapti and Narmada Valley rigions. In the heavy rainfall areas of the Konkan, Kanara, Malnad and other similar areas the soil is of laterite type mostly washed out of its important plant food material. There exist innumerable varieties of soils in these broad groups.

All these various grades of soils will require variations in cultural practices to fit them for crop growing. The ideal to be achieved in preparing soil for plant production is to provide ideal home for seed germination and for optimum growth of the underground part of the plant on which the ultimate plant performance depends. The soil as an ideal home for the plant growth should have loamy characteristics i. e. the soil structure should be friable, well-ventilated and should hold and provide the growing plant with sufficient soil moisture and plant food in available form. Soil should also have favourable reaction i. e. it should not be either acidic or saltish.

To achieve these objects the cultural practices have developed in the various agricultural tracts on the accumulated experience of past generations. The present practices are, therefore, sum total of wisdom of past generations from times immemorial. These practices of which we are the heirs may be termed as traditional practices and those which are based as a result of researches or experimentations as scientific ones. The traditional practices are modified as science advances. In recent years as a result of scientific researches carried out by the Government Agricultural Departments, Universities and especially the institutions like the Indian Council of Agricultural Research, Central Commodity Committee etc., the traditional practices are being modified by newly evolved materials and methods found superior to local ones as a result of trials on farmers' fields under their own conditions.

(*To be Continued*)

BUY THE BEST TOOL FOR THE LEAST MONEY

By: J. F. CORREIA

(Continued from Last Issue)

If an implement that is being operated, needs to be stopped for a considerable time to make a minor adjustment or even lifting out or lowering down, then it may be considered poor. Such devices must be operated with ease and comfort. A clutch which needs all the weight of a person to disengage it, may be considered defective. They should be in a position of easy reach to the operator. Then there are safety measures. These are of two types—those concerning the machine and those concerning the operator. The former protect the machine from damage due to obstruction or clogging in the fields. A slip cluch, a shear belt or a spring release will save the breakage of the machine part. Adequate guards or shields are an important feature of safety devices.

However, an imprudent operator will not find all the protective devices adequate since there are many unsolved safety problems in farm machines. Lubrication plays an important part in the life of a machine. Grease nipples and oil holes of bearings should be accessible. The implement should be simple enough and at the same time should not lack in any of its functional requirements. A design which is simple, usually has other advantages, that is, it is easy to operate, costs less and is easy to repair.

All these factors will help a prospective buyer to make a decision in the right direction. It is for every individual to stress on a particular point according to its suitability.

For example, in power transmission system, a V–belt drive will probaly be as reliable as a gear drive and at the same time cheaper. Breakge in a tooth or two may result in the machine being left idle until a suitably designed gear replaces the broken one. Moreover to make the gears dustproof, they must be enclosed which may not be the case in belt transmission. The ability for duty and power is a point not to be overlooked. If a two-bottom, 14-inch plough is hooked on to a 45 drawbar horsepower tracter, the utilization of power is poor and wasteful. The implement draft should be known and compared to the power available on the farm.

Other Aspects—The above two viewpoints should normally be weighed against the economic proposition. How far the extra cost justifies the advantages of the new implement may be a diciding factor. Will the extra price that is to be paid, fetch additional profits to justify discarding the old implement? There are very few who will not agree in a machine being made attractive and pleasing. This point may not be stretched so far as to streamline every farm implement. But it must be realized that the operator is not a mechanical robot devoid of aesthetic sense and a love for his job and machine he handles. The feeling of pride for one's job and machine is a natural instinct in every operator. Moreover, the operator and the operated machine are companions and the feeling of pride for the machine is ultimately beneficial to it from the point of view of efficiency, care and life.

The availability of parts is an important consideration in the selection of an implement. It need not be over emphasized that in farm implements there must always be spares of the parts likely to break. However if a model is too old and the parts are to be imported or ordered to be specially manufactured, it is very likely that the delay will be disadvantageous. Reliability of the firm and the reputation of the dealer are pointers to make one's decision in buying an implement provided the other factors are not ignored.